THE
ATMOSPHERIC RESERVOIR
Examining the Atmosphere and Atmospheric Resource Management

North Dakota cloud seeding research to begin this spring

By Darin Langerud

After a long dry spell, cloud seeding research is set to begin again in North Dakota. In 2002, Congress provided $2,000,000 for the Weather Damage Modification Program (WDMP), which is intended to provide the means for states to conduct research and evaluation efforts in cloud seeding. The program is administered by the U.S. Bureau of Reclamation and requires a 50 percent cost-share match for research activities. Current expenditures for cloud seeding operations can be counted toward the matching requirement. This is the first federal funding of cloud seeding research since the National Oceanic and Atmospheric Administration's Atmospheric Modification Program ended in 1994.

Data from the North Dakota Cloud Modification Project radar in Stanley, ND will be analyzed as part of the new WDMP research program.

The North Dakota Atmospheric Resource Board, a division of the State Water Commission, is the recipient of the funds allocated for North Dakota. Research activities will be conducted through agreements with the University of North Dakota's Center for Aerospace Sciences and the Institute of Atmospheric Science at the South Dakota School of Mines and Technology. Both of these institutions have a long history of research in weather modification and have participated in prior research programs in North Dakota.

North Dakota's research will focus on three topics initially: cloud seeding impacts on rainfall, the potential enhancements of the operational use of the NEXRAD Doppler radar systems, and atmospheric measurements of cloud condensation nuclei, which determine in large part the type of clouds that form over North Dakota. These initial studies will assess the current capability of the program and lay the groundwork for follow-on studies in subsequent years.

In addition to the research funding approved by Congress in 2002, a funding package for the 2003 fiscal year is being debated in Congress as this column is being written. In its present form, an additional $3,500,000 has been included for the WDMP for 2003. If the bill is passed as-is, states will be able to continue moving their programs forward.

Future research will incorporate the use of greatly advanced atmospheric instrumentation, including more sensitive radars, satellites, and global positioning systems that will allow observation of clouds and seeding effects at a greater capacity than at any time before. The increased knowledge gained through this research, and the operational application of results, will allow states to improve their cloud seeding programs and their ability to affect positive changes on seeded clouds and cloud systems.

We will provide updates regarding research activities and results as activities progress. ■

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